

A low-angle, upward-looking photograph of several tall skyscrapers. The buildings are covered in glass windows, some of which are dark, suggesting they are empty. The sky is a pale, hazy blue. The perspective creates a sense of height and scale.

Sustainment Management Systems BUILDER, PAVER, RAILER and ROOFER



Condition Index Development

- Condition Assessments and Indexes focused on component level:
 - BUILDER: Roof Membrane, Air Handling Unit, Overhead Door
 - PAVER: Airport taxiway, apron, city block
 - RAILER: Turnout, Grade Crossing, Ties
 - ROOFER: Entire Roof Section

Expertise in a Box

- Condition Indexes developed by interviewing a panel of experts to get a statistical agreement on how defined defects result in a rating (0-100) of the asset's condition.
- Results in a system which incorporates experts' experience in objectively rating asset condition using observed distresses.

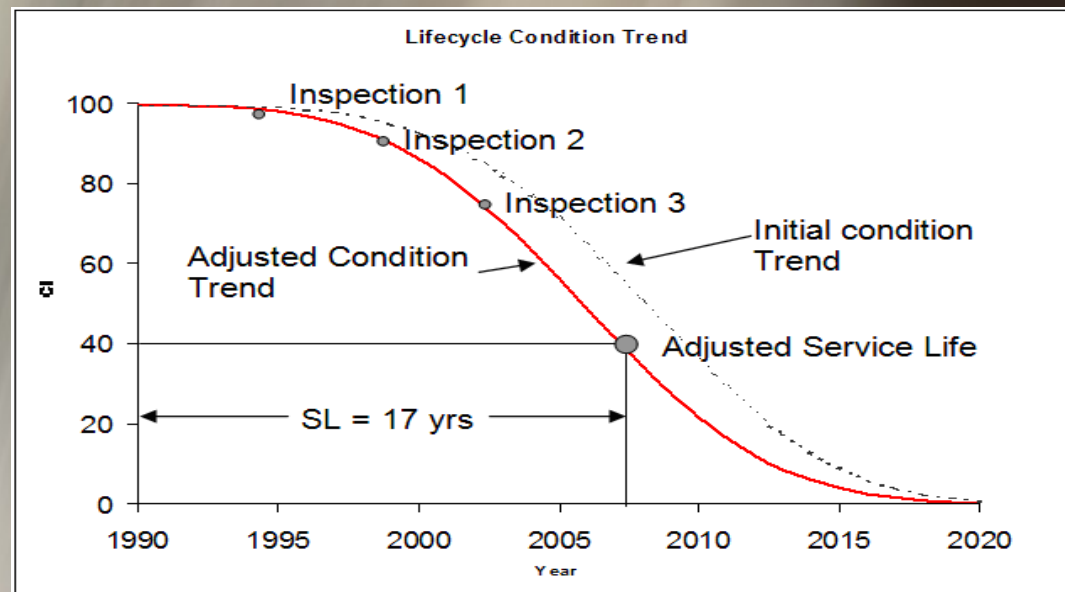


Condition Prediction

- BUILDER 3.0 incorporates a new condition prediction engine based upon industry models of failure probability distribution.
- Using the Weibull cumulative probability distribution function as the basis for condition trend, condition history is used to adjust the curve to the specific asset's observed behavior.

Condition Prediction (cont.)

- Incorporates both distress survey (traditional SMS inspection), and direct rating (quick red, amber, green rating) methods
- Affects of repairs are modeled.
- Patent currently applied for this method under COE-582CIP



Work Identification - Standards

- Work is automatically generated by looking for components which don't meet a required condition level.
- Standards define both minimum condition levels for work (resulting in repairs); and minimum levels of reliability (expressed in remaining service life and resulting in replacement).

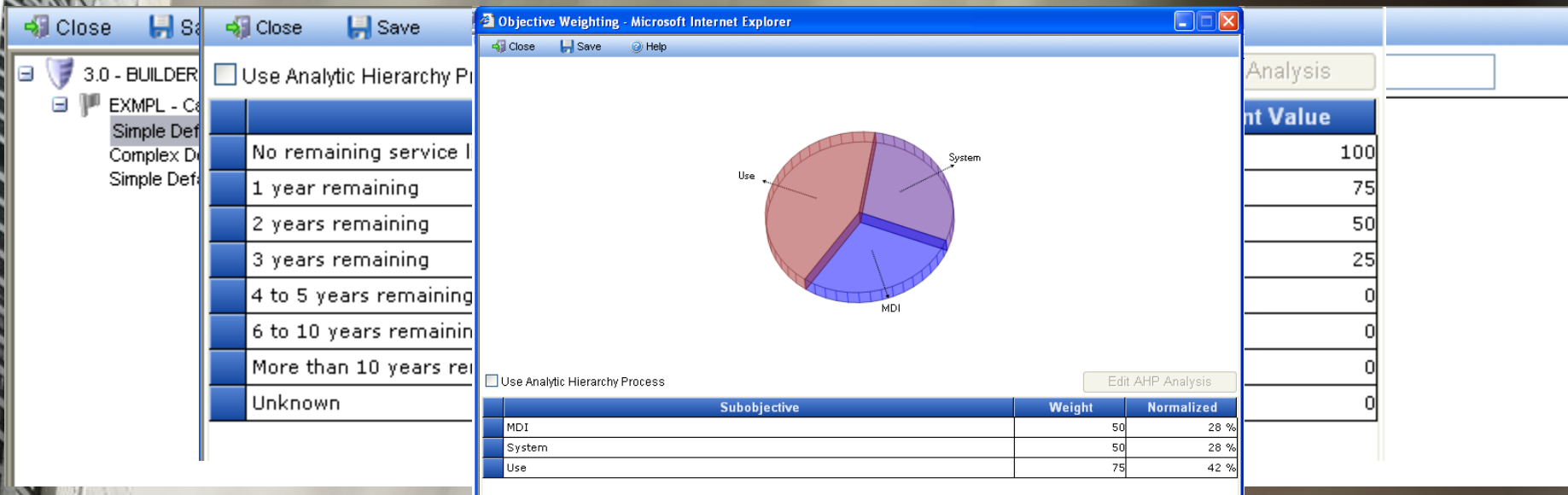
Condition Index	Definition
100	Entire component-section or sample free of observable defects
99-93	No component-section or sample serviceability or reliability reduction.
92-86	Slight or no serviceability or reliability reduction overall to component-section.
85-75	Component-section serviceability or reliability is degraded but adequate.
74-65	Component-section serviceability or reliability is definitely impaired.
64-56	Component-section has significant serviceability or reliability loss.
55-37	Significant serviceability or reliability reduction in component-section.
36-11	Severe serviceability or reliability reduction, such that it is barely able to perform.
10-0	Overall degradation is total.

Work Identification - Policies

- Policies define how standards are applied to inventory.
- Policies defined upon the criticality, consequences of failure and level of risk you are willing to accept for various types of inventory (i.e. building use type, system, importance of facility, tenant requirements, etc.)
- Policy sequences allow for multiple criteria on each asset, with overriding preference
- Work is created by rules, based upon objective data, rather than subjectively based upon skill, knowledge, and preferences of observer

Work Identification - Prioritization

- Prioritization is used to rank work requirements
- Use various parameters including economic, criticality, and geographic factors
- Effectively target work to most important items by cost *and* criticality to mission accomplishment.





Work Identification - Summary

- Work is automatically created based upon objective rules and acceptable levels of risk (expressed as condition).
 - Work costs are derived automatically as a parameter of the condition.
- Work is prioritized based upon *user-specified* criticality and financial metrics and weighted according to *user business practices*.
 - Unfunded work (based upon priority) is added to backlog, and FCI is automatically calculated.
- Condition Prediction models can be applied in simulation to develop multi-year work plans for strategic and tactical planning.

A low-angle, black and white photograph of a tall skyscraper, likely the Empire State Building, dominates the left side of the frame. The building's facade is a grid of windows, and its iconic Art Deco top is partially visible. The right side of the image is a dark, gradient background where the text is located.

IMPACT

Integrated Multi-year Prioritization Analysis Consequences Tool

- Simulation tool to allow user to vary standards, policies, prioritization, inflation, funding, uses, and real property inventory to determine effects of various facility management decisions.



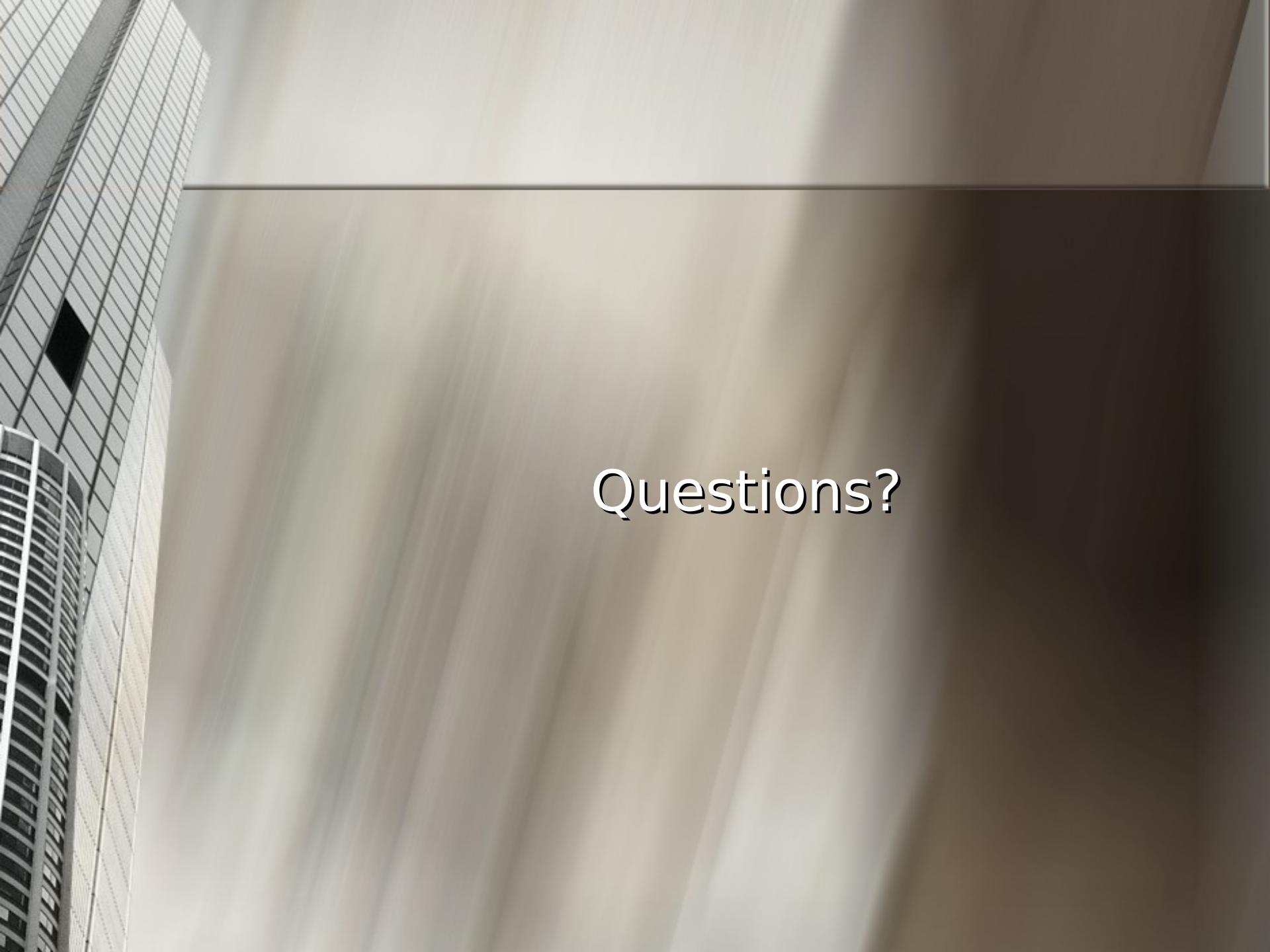
Mission Focused Facility Investments

- Objective: Equitably distribute facility investments to assure mission accomplishment and greatest cost effectiveness.
- Method:
 - Utilize METL information to organize and define hierarchy of tasks.
 - Identify facility characteristics required to support mission
 - Physical Attributes (Site, size, footprint, etc)
 - Spaces (Changing the use of interior areas)
 - Components
 - Compare mission facility requirements against facility performance
 - Capability (measured by functionality)
 - Serviceability & Reliability (measured by condition)
 - Identify options for closing gaps

Track building performance and its impact on mission

SMS Current Status

- BUILDER
 - Used by USMC, DoE, FBI, and many private organizations.
 - BUILDER 3.0 is new web-based version with support for entire enterprises.
- PAVER
 - Used by all DoD services, as well as FAA.
 - New desktop release - PAVER 6.0
- RAILER
 - Used by Army, Navy, and USMC. IMA performing more implementations next year.
 - RAILER 6.0 is new version with redesigned user interface and support for modern and future operating systems.
- ROOFER
 - Used by Army and Navy.
 - Development underway to upgrade to web-based system based upon BUILDER application framework.
- Joint SMS Users Group Meeting
 - First meeting of multiple-program users to define common development needs and standardize on common work management practices using SMS products.



Questions?

About this Presentation

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